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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,921	01/09/2004	Ronald F. Welch JR.	246-99-029RE 1246	7604

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10/15/2008

EXAMINER
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TUROCZY, DAVID P

ART UNIT	PAPER NUMBER
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1792

MAIL DATE	DELIVERY MODE
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10/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/754,921

Applicant(s)

WELCH ET AL.

Examiner

DAVID TUROCY

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 15-17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 12, 15-17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/12/2008</u> | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendments, filed 4/19/2007, have been fully considered and reviewed by the examiner. The examiner notes the cancellation of previously submitted claims 14 and 18 and the addition of new claims 19-26 in the reissue application. Claims 1-13, 15-17, and 19-26 are pending. The examiner notes the amendment to claim 16 and therefore the 35 USC 112 rejections has been withdrawn. Also, the 35 USC 102(b) rejection of claims 16 to 17 has been withdrawn in view of the amendment to require a elastic polymeric substrate.
2. The examiner notes the petition, filed 3/6/2007, to comply with provision 37 CFR 147(a) for unavailability to execute the declaration. The petition is currently under review.

Additionally, the examiner notes the signature of the legal representative on Behalf of a deceased inventor, including the supplemental sheet to satisfy 35 USC 117.

### ***Response to Arguments***

3. Applicant's arguments filed 4/19/2007 have been fully considered but they are not persuasive.

The applicant has argued that none of the reference discloses depositing parylene N on the polymer substrate and then depositing parylene C over the parylene N. Initially the examiner notes that claims 13, 15-17, 19-25 fail to require the argued layer arrangement. In particular, those claims either require a first layer of parylene N or a top layer of parylene C, but fail to require the two together. Therefore the

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arguments are deemed to be not commensurate in scope with those claims and therefore deemed moot.

With respect to the remaining claims, while the examiner agrees that such a teaching is not explicit, it remains the examiners position, that taking the references collectively, one of ordinary skill in the art would have been motivated to first deposit parylene N and the subsequently deposit parylene C, including an intermediate graded layer, with a reasonable expectation of successfully providing a parylene film with the desired properties. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375.

The applicant has argued that the combination of parylene N and C is unexpected because the parylene N has a particularly high bonding properties and parylene C has high chemical resistance properties. These unexpected results are unsupported by any factual evidence on the record. Additionally, the argument is not found convincing because such an argument is not commensurate in scope with the claims, wherein the claims fail to specifically require any degree of bonding strength or any degree of chemical resistance properties. It is also noted that Lee clearly discloses applying a first parylene layer, a transition layer, and a second parylene layer, wherein Lee discloses varying the composition of the parylene layer during deposition, the properties of the composition can be altered and such a configuration the "mechanical strength of the thin film can be tailored to suit the individual needs of the user."

Therefore, it would have been obvious to one of ordinary skill in the art, in view of the teachings of Lee, to have provided the polymer composition and layer formation that

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suits the desired needs with a reasonable expectation of success, including providing a parylene N layer on the bottom and a parylene C layer on top, including an transition layer that is graded to provide a parylene thin film layer with the desired properties and mechanical strength.

***Information Disclosure Statement***

4. The information disclosure statement (IDS) submitted on 3/12/08 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 11-13, 15-17, and 19-26 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5879808 by Wary et al in view of US Patent 5075174 by Pyle, JP 04-173848, and US Patent 6140456 by Lee et al.

Wary discloses deposition of parylene protective layer by vapor deposition on polymeric substrate and annealing the parylene layers (Column 4 and Column 7, lines 45-55). Wary discloses providing an adhesion-promoting layer on the substrate prior to

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deposition of the parylene layer (Column 5, lines 50-54). Wary discloses depositing the parylene on silicone rubbers and keypads (Column 4).

Wary fails to disclose precleaning the substrate or annealing in the presence of a vacuum. However, Pyle discloses that precleaning polymeric substrates is effective prior to depositing parylene vapor deposition coatings thereon (example 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wary to use the precleaning on the substrate as suggested by Pyle to reap the benefit of providing a surface for vapor deposition of parylene as well as a clean surface. Furthermore, JP '848 discloses that annealing parylene film in a vacuum improves adhesivity and hardness of the film (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wary in view of Pyle to use the anneal in a vacuum as suggested by JP 04-173848 to reap the benefit of providing a parylene surface with improved adhesivity and hardness.

Pyle discloses applying Parylene N, C, D and mixture therefore are effective for coating electrical equipment to reduce outgassing and prevent attraction of airborne particles thereto (Column 2, line 24 – Column 3, line 5). However, the references fail to disclose applying a first layer of a first parylene polymer followed by a second layer of a second parylene polymer, different from the first. However, Lee, teaching of a method for vapor depositing parylene films, discloses varying the composition of the parylene layer during deposition, the properties of the composition can be altered (Column 22, line 60 - Column 23, line 17). Lee discloses depositing one parylene layer at the substrate surface and then changing the composition by ceasing the delivery of a first precursor and starting the delivery of a second precursor and also depositing

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subsequent different layers. Additionally Lee discloses forming a gradient layer between to parylene composition by gradually changing the precursor during deposition (Column 22, line 60 - Column 23, line 17). Therefore it would have been obvious to one of ordinary skill in the art to coat the substrates with parylene N, C, D and mixture therefore to achieve the advantages as taught by Pyle and additionally it would have been obvious to one of ordinary skill in the art to provide a first parylene layer and a second parylene layer, including a gradient layer, to provide varying properties of the deposited film as taught by Lee.

Regarding providing a parylene N layer and then a subsequent parylene C layer, Pyle explicit discloses parylene N and C and mixtures thereof and Lee discloses providing a first parylene layer and a second parylene layer, including a gradient layer, to provide varying properties of the deposited film. Therefore it would have been obvious to one of ordinary skill in the art, taking the references collectively, to first deposit parylene N and the subsequently deposit parylene C, including an intermediate graded layer, with a reasonable expectation of successfully providing a parylene film with the desired properties. Please note that the test of obviousness is not an express suggestion of the claimed invention in any or all references, but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them (*In re Rosselet*, 146 USPQ 183).

Regarding the claimed temperature, time and thicknesses. It is the examiners position that such parameters are clearly result effective variable within the skill of one ordinary in the art. Too little time and too low a temperature will result in an incomplete anneal and the thickness of each layer will determine the overall parylene layer

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thickness. Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the temperature, time and thicknesses used in the process of Wary in view of Pyle, JP 04-173848 and Lee through routine experimentation, to impart the parylene layer with the desired properties.

***Allowable Subject Matter***

7. Claims 8-10 allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art cited or reviewed by the examiner alone or in combination teaches the multiple steps of cleaning prior to depositing the parylene layer.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/  
Patent Examiner, Art Unit 1792

/Timothy H Meeks/  
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